

REMARKS

The final Office action mailed on 14 March 2005 (Paper No. 20050224) has been carefully considered. Allowance of claims 1 thru 4 and 13 thru 20, as indicated in paragraph 4 of the final Office action, is appreciated.

Claims 5, 8, 9, 11 and 12 are being amended. Thus, claims 1 thru 20 are pending in the application.

It should be noted that independent claim 5 is being amended to recite the step of “sensing contrast of a video signal displayed on the LCD panel”. That step corresponds to the recitation previously recited in dependent claims 8, 9, 11 and 12. Thus, the recitation was clearly searched and considered in connection with the examination of claims 8, 9, 11 and 12, and does not raise “new issues” or require further consideration and/or search.

In addition, independent claim 5 now recites that a pulse width modulation (PWM) signal is outputted from the contrast sensing part in response to the previously recited sensing step. Whereas independent claim 5 previously recited that “a back light control signal” was outputted from the contrast sensing part, but did not specify the outputted signal as a PWM signal, the outputting of a PWM signal was previously searched and considered by the Examiner in connection with the examination of independent claims 1 and 13, each of which recites functions corresponding to the steps now recited in amended independent

claim 5. Therefore, the recitation in question was already searched and considered in connection with the examination of claims 1 and 13, and does not raise “new issues” or require further consideration and/or search.

Based on the above consideration, entry of this Amendment After Final is appropriate, and hereby requested.

In paragraph 2 of the Office action, the Examiner rejected claims 5 and 12 under 35 U.S.C. §103 for alleged unpatentability over Shibata, Japanese Patent Publication No. 06-034946 and Lee, U.S. Patent No. 5,818,172, and further in view of Koenck *et al.*, U.S. Patent No. 5,818,553. In paragraph 3 of the Office action, the Examiner rejected claims 6 thru 11 under 35 U.S.C. §103 for alleged unpatentability over Shibata ‘946, Lee ‘172 and Koenck *et al.* ‘553, and further in view of Helms, U.S. Patent No. 5,952,992. For the reasons stated below, it is submitted that the invention recited in the claims, as now amended, is distinguishable from the prior art cited by the Examiner so as to preclude rejection under 35 U.S.C. §103.

It is respectfully submitted that invention recited in independent claim 5 is distinguishable from the prior art cited by the Examiner so as to preclude rejection under 35 U.S.C. §103. In that regard, the Examiner alleges that Shibata ‘946 “teaches a method for providing backlight brightness control based on a contrast sensing part (automatic modulated

light circuit; constitution of Abstract and paragraphs 0011-0014 teaching the automatic modulated light circuit receives color tone data as a source signal and forms a low- or high-brightness back light control signal according to the screen image brightness) for sensing contrast of a video signal displayed on an LCD panel making a computer screen easy to see while reducing power consumption (constitution)” (quoting from page 2, lines 10-16 of the final Office action). However, paragraph 0014 of Shibata ‘946 does not support the Examiner’s allegation.

Specifically, paragraph 0014 of Shibata ‘946 merely states that, since “the above-mentioned signal level decodes a color tone indicative data and is formed, it can judge about the thing corresponding to which gradation the average of the whole screen is by calculating the data corresponding to .. arithmetically and calculating the average” (quoting from the first three lines of paragraph 0014 of the reference). The cited paragraph then states that “[an] automatic modulated light circuit performs such an easy operation, and forms the above intensity-control signals” (quoting from paragraph 0014, lines 3-4 of Shibata ‘946). Finally, the cited reference states that “above averages prepare the easy D.A-conversion circuit besides what is performed by the digital arithmetic circuit” (quoting from paragraph 0014, lines 5-6 of Shibata ‘946).

At no point in paragraph 0014 of Shibata ‘946 is there any mention of a “contrast sensing part” or of the step of “sensing contrast of a video signal” (emphasis supplied) as

recited in claim 5 of the present application. Moreover, there is no mention whatsoever in the cited paragraph of Shibata '946 of the performance of any contrast sensing function by the "automatic modulated light circuit" referred to by the Examiner at page 11, line 11 of the final Office action. Therefore, it cannot be said that Shibata '946 discloses a contrast sensing part for, or the step of, sensing contrast of a video signal displayed on an LCD panel and outputting a signal as a result thereof.

Furthermore, it should be noted that independent claim 5 expressly recites the step of "outputting a pulse width modulation (PWM) signal in response to the sensing step". In that regard, the Examiner has admitted that Shibata '946 does not teach the outputting of a PWM signal (*see* page 2, line 18 of the previous Office action of 21 April 2004 - Paper No. 7). It is respectfully submitted that the reason that Shibata '946 does not disclose the outputting of a PWM signal resides in the fact that the automatic modulated light circuit of Shibata '946 is not a contrast sensing part. Rather, it is a **brightness** sensing part. In the latter regard, it is requested that the Examiner consider the following.

The automatic modulated light circuit described in Shibata '946 is different from the contrast sensing part recited in the claims because they operate by different respective methods.

Specifically, the automatic modulated light circuit of Shibata '946 “stops low brightness in a color tone with the bright average of the whole screen, and ... sets up brightness highly, if it is a dark color tone” (quoting from paragraph [0011] of Shibata '946). This amounts to **brightness** detection or sensing.

In contrast, the method of claim 5 recites the step of sensing the contrast of the video signal displayed on an LCD panel. As a result, when only a partial section in the frame of a monochrome monitor is white and most is black, the subject invention decreases the brightness of the backlight by a small amount so as to save power since, in this case, the decrease in brightness of the backlight is not easily recognized visually. On the other hand, when most of section in the frame of the monitor is white, the brightness of the backlight is maintained at a predetermined brightness since, in this case, a change in the brightness of the backlight would be easily recognized visually.

Thus, the operation of the contrast sensing part of the invention is based on the concept that a difference in contrast affects the degree of visual sensing of the brightness change with respect to the backlight. Furthermore, the contrast sensing step of claim 5 can also be applied to a color monitor having various degrees of saturation classified by light and dark colors except for a monochrome monitor.

To summarize, whereas Shibata '946 discloses the sensing of brightness, the method of claim 5 calls for the sensing of contrast in a video signal. Thus, the alleged correspondence between the automatic modulated light circuit of Shibata '946 and the contrast sensing part of the claimed invention, as set forth by the Examiner, is not valid because the respective sensed data and the respective sensing methods in each are different.

On page 4 of the final Office action, the Examiner states that it would have been obvious to combine the teachings of Shibata '946 and Lee '172. However, as stated above, a careful review of paragraph 0016 of Shibata '946 fails to reveal any mention of the "contrast sensing" step or a "contrast sensing part". In fact, the cited paragraph merely refers to "brightness" and "bright color tone", and does not mention "contrast" at all, much less a contrast sensing step or part. Therefore, a serious question is raised as to the validity of the combination of references cited under 35 U.S.C. §103 since one of ordinary skill in the art, upon reviewing Shibata '946, would not be motivated or instructed to seek and incorporate the disclosure of Lee '172 or any of the cited references. This is especially true since, as stated above, Shibata '946 not only does not mention "contrast sensing", but also does not disclose most of the steps recited in claim 5, and also does not disclose the outputting of a PWM signal from the contrast sensing part as recited in claim 5. Finally, even if the combination of Shibata '946 and Lee '172 were a proper combination of references under 35 U.S.C. §103, as stated above, the combination of these references still fails to disclose or suggest each of the steps recited in claim 5.

Thus, for many of the same reasons that the Examiner has allowed claims 1 and 13, the method of claim 5 is not disclosed or suggested in the references cited by the Examiner. In particular, again, Shibata '946 does not mention "contrast sensing" or a "contrast sensing part", and there is no disclosure which leads one to believe that the automatic modulated light circuit discussed in paragraph [0014] of Shibata '946 performs a contrast sensing function. Thus, the statement contained in paragraph 2 on page 2 of the final Office action is, it is respectfully submitted, in error. For the reasons stated above, Shibata '946 does not disclose or suggest a contrast sensing part which controls brightness/darkness of back light.

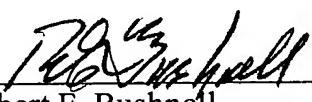
On page 3 of the final Office action, the Examiner also admits that the method recited in claim 5 contains various steps, none of which is included in the disclosure of Shibata '946. Thus, the citation of Shibata '946 as a primary reference against method claim 5 is very questionable since, by the Examiner's own admission (at page 3, lines 1-5 of the final Office action), Shibata '946 does not disclose a method which specifically includes all of the steps recited in claim 5.

For the above reasons, it is submitted that independent claim 5 recites the inventive method in a manner distinguishable from the prior art so as to preclude rejection under 35 U.S.C. §103. Moreover, the dependent claims provide further bases for distinguishing the invention from the prior art cited by the Examiner.

In view of the above, it is submitted that the claims of this application are in condition for allowance, and early issuance thereof is solicited. Should any questions remain unresolved, the Examiner is requested to telephone Applicant's attorney.

No fee is incurred by this Amendment After Final.

Respectfully submitted,



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